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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/675,375

09/30/2003

Albert A. Maltan

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08/15/2006

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EXAMINER

MALAMUD, DEBORAH LESLIE

ART UNIT

PAPER NUMBER

3766

DATE MAILED: 08/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/675,375	<b>Applicant(s)</b> MALTAN ET AL.	
	<b>Examiner</b> Deborah Malamud	<b>Art Unit</b> 3766	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 16 June 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>6/16/06</u> . | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

1. The examiner acknowledges the amendments received 16 June 2006. Claims 1-24 are pending.

***Claim Rejections - 35 USC § 102***

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
3. Applicant's arguments with respect to claims 1-20 have been considered but are moot in view of the new ground(s) of rejection.
4. Claims 1-4 and 6-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Faltys et al (U.S. 6,272,382). Regarding claims 1, 2 and 6, Faltys discloses (col. 2, lines 51-62) a fully implantable cochlear implant system (FICIS) comprising a small implantable cochlear stimulator (ICS) module including a permanently attached electrode array, an implanted speech processor (ISP) module including an integrated microphone and rechargeable battery, and an external module that may include an external speech processor (ESP) module or an external battery charger (EBC) module. The external module may include (col. 7, lines 59-67; Figures 1A and 1C) a speech processor (SP), a power source, and a headpiece (HP; 106), which may comprise a microphone (107). Inside of the headpiece is a coil (col. 8, lines 8-10) that is used to inductively or magnetically couple a modulated ac carrier signal to a similar coil that is included within the ICS (112). The examiner considers this to be a sound processor for use within an implantable cochlear stimulator, comprising a microphone, a sound

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processing circuit, a headpiece, and a power source permanently integrated into the sound processor, capable of performing the claimed functions.

5. Regarding claims 3-4, Faltys discloses (col. 9, lines 28-30) "the present invention is directed to fully implantable devices and systems that employ a rechargeable battery or other replenishable power source."

6. Further regarding claim 6, Faltys discloses (col. 8, lines 8-20; Figure 2D) the headpiece includes a coil that is used to inductively or magnetically couple a modulated ac carrier signal to a similar coil that is included within the ICS. To achieve proper alignment of these two coils, a magnet is used within both the headpiece and the ICS; the resulting magnetic attraction aligns the coils and provides a holding force that maintains the headpiece against the scalp or skin. The examiner considers this to be a coil integrally included within the sound processor and coupled to the sound processing circuit. The coil is adapted to selectively receive power from the external charging source and recharge the replenishable power source when the sound processor is in proximity to (e.g., aligned with) the external charging source.

7. Regarding claim 7, Faltys discloses (col. 10, lines 9-20; Figure 1C) an external control unit (138), which is used to charge/recharge the battery within the implanted unit, as well as to override the ISP with an ESP, to boost the power provided by the internal battery, or for programming the implant device. The examiner considers this to be a coil and sound processing circuit adapted to receive external control signals from an external source that controls the operation of the sound processing circuits.

***Claim Rejections - 35 USC § 103***

8. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

9. Applicant's arguments with respect to claims 1-20 have been considered but are moot in view of the new ground(s) of rejection.

10. Claims 5 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Faltys et al (U.S. 6,272,382) in view of Single (U.S. 2002/0076071). Regarding claim 5, Faltys discloses the claimed invention except for a lithium-ion battery. Single however discloses (par. 0042) "the first and at least one further batteries can comprise Lithium-ion cells." Faltys and Single both disclose systems for providing power to cochlear implants. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Faltys' rechargeable battery with Single's lithium-ion cell in order to provide a power source that is commonly available to a consumer and rechargeable.

11. Regarding claim 8, Single discloses (par. 0030) "the cochlear implant preferably includes a sensing means that senses when the externally mounted device, incorporating an external power supply, is brought into use."

12. Claims 9-13, 15, 17-20 and 22-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Faltys et al (U.S. 6,272,382) in view of Bordewijk (U.S. 4,918,736). Regarding claims 9 and 17, Faltys disclose the claimed invention except for a remote control unit. Bordewijk however discloses (col. 2, lines 1-11) a remote control of a

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hearing aid, wherein the control means is a hand-held device, which is brought in the vicinity of or held against the hearing aid concerned. Control is through more or less simple sound signals originated by the handheld unit and received by the pick-up of the hearing aid. The control signal of the remote control is used (col. 2, lines 36-40) to switch the aid on or off, or to change volume, frequency-settings or other operational parameters of the aid, without disturbing the user of the aid. Faltys and Bordewijk both disclose hearing aids with external control units. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Faltys' hearing aid with Bordewijk's remote control in order to adjust the settings of the hearing aid without disturbing the hearing aid user.

13. Regarding claim 10 and further regarding claim 17, the examiner considers the EBC of Faltys (col. 2, lines 51-62) to be a base station having recharging circuitry housed therein adapted to recharge the rechargeable battery of the sound processor when the sound processor is placed in close proximity to the base station. The headpiece that is connected to the EBC brings the charger close to the sound processor of the ICS. Since the EBC charges the ISP through the skin, the examiner considers the terminals of the base station to be electrically connected with the rechargeable battery.

14. Regarding claims 11-12 and 18-19, Faltys discloses that the external module may include (col. 7, lines 59-67; Figures 1A and 1C) a speech processor (SP), a power source, and a headpiece (HP; 106), which may comprise a microphone (107). Inside of the headpiece is a coil (col. 8, lines 8-10) that is used to inductively or magnetically couple a modulated ac carrier signal to a similar coil that is included within the ICS

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(112). The examiner considers this to be a microphone adapted to receive sound signals and convert them to electrical signals. The sound processing circuits are adapted to receive the electrical signals from the microphone and convert them to stimulation signals, and are further adapted to generate power signals. The headpiece is connected to the sound processing circuits and is adapted to transfer the stimulation signals and the power signals from the sound processing circuits to the implantable portion.

15. Regarding claim 13, Faltys discloses (col. 9, lines 28-30) "the present invention is directed to fully implantable devices and systems that employ a rechargeable battery or other replenishable power source."

16. Regarding claim 15, Faltys discloses (col. 13, lines 59-64) "the headpiece (50') may also include an external microphone. The headpiece is connected to an external unit (54), which external unit comprises appropriate electronic circuitry, e.g, an external speech process (ESP) or an external battery charger (EBC). The external unit, in turn, is powered from an external power source (56)." The examiner considers this to be a base station that comprises a control circuit coil and control circuits, wherein the control circuits are adapted to control and monitor the recharging process based on feedback signals received through the control circuit coil from the sounds processor through the coil of the headpiece.

17. Regarding claims 20, 22 and 24, Faltys makes no mention of a power source removal door within the sound processor case. To the contrary, Faltys discloses (col. 4, lines 5-23) replacement of the rechargeable battery would require removal of the entire

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ISP module. Therefore, the examiner considers Faltys' system to inherently not include a power source removal door. In the alternative, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide a sound processor case that does not include a power source removal door, since such a door would be unnecessary for a battery that is permanently integrated into the sound processor.

18. Regarding claim 23, Faltys discloses (col. 2, lines 51-62) inside of the headpiece is a coil (col. 8, lines 8-10) that is used to inductively or magnetically couple a modulated ac carrier signal to a similar coil that is included within the ICS (112). The examiner considers this to be a first coil configured to charge the battery; and an external portion that includes a second coil configured to transmit a power signal to the implantable portion.

19. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Faltys et al (U.S. 6,272,382) in view of Bordewijk (U.S. 4,918,736) and in further view of Single (U.S. 2002/0076071). Faltys and Bordewijk disclose the claimed invention except for a lithium-ion battery. Single however discloses (par. 0042) "the first and at least one further batteries can comprise Lithium-Ion cells." Faltys, Bordewijk and Single all disclose systems for providing power to cochlear implants. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Faltys' rechargeable battery with Bordewijk's remote control unit, and with Single's lithium-ion cell in order to provide a power source that is commonly available to a consumer and rechargeable.



20. Claim 16 is rejected under 35 U.S.C. 103(a) as obvious over Faltys et al (U.S. 6,272,382) in view of Bordewijk (U.S. 4,918,736) and in further view of Schulman (U.S. 3,942,535). Faltys in view of Bordewijk discloses the claimed invention except for at least one visual display wherein the control circuits are connected to the at least one visual display. Schulman however discloses (col. 9, lines 22-31; Figures 1, 5 and 6) a rechargeable tissue stimulating system including an external charging circuit. The charging circuit is such that "a lamp driver circuit (111) employing a resistor (R49) and lamp driver amplifier (A6), grounded as indicated, is connected through resistor (R50) to a light emitting diode (26). This light emitting diode provides a visual output display as indicated in FIG. 6 when the signal on circuit (63) is sufficiently great. The actuation of light emitting diode indicates that the operating voltage has been achieved across the leads (51 and 52) in the charging circuit, and that the battery (15) is charging properly." Though Schulman discloses a subcutaneous charging system and the claim requires a base station for charging the battery, Schulman's invention solves the problem of indicating that the battery is charging properly. Moreover, Faltys, Schulman and Bordewijk all disclose tissue stimulators with integrated power sources. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Faltys' rechargeable battery with Bordewijk's remote control unit, and with Schulman's LED visual indication in order to prevent improper or incomplete charging of the battery within the cochlear implant system.

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21. Claim 21 is rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Faltys et al (U.S. 6,272,382). Faltys makes no mention of a power source removal door within the sound processor case. To the contrary, Faltys discloses (col. 4, lines 5-23) replacement of the rechargeable battery would require removal of the entire ISP module. Therefore, the examiner considers Faltys' system to inherently not include a power source removal door. In the alternative, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide a sound processor case that does not include a power source removal door, since such a door would be unnecessary for a battery that is permanently integrated into the sound processor.

### ***Conclusion***

22. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Deborah Malamud whose telephone number is (571) 272-2106. The examiner can normally be reached on Monday-Friday, 9.00am-5.30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Pezzuto can be reached on (571)272-6996. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



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